

# Work Order ID 83421

April-18-12 8:11:22 AM

**\*83421\***

Page 1

Item ID: D4148-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Lug Plate, Fwd

Start Date: 18/04/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/04/18

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4148	D

(15)

100 0.00

**\*100\***

Waterjet

Memo

0.00

FLOW CNC Waterjet

Cut as per dwg D4148

Prog Rev: B

Dwg Rev: B

304 . 125

Deburr as required

18

12-4-22

110 QC2- Inspect parts off machine FAI/FAIB 0.00

**\*110\***

QC

Memo

0.00

Quality Control

1812-4-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 83421

**\*83421\***

Page 2

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Item ID: D4148-1

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**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Lug Plate, Fwd

Start Date: 18/04/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120 QC8- Inspect parts - second check

0.00

**\*120\***

QC

Memo

0.00

*Schulz*

*(15)*

Quality Control

150 Identify as per dwg & Stock Location: *B2*

0.00

**\*150\***

Packaging

Memo

0.00

Packaging

*(15)*

*12/4/23*

160 QC21- Final Inspection - Work Order Release

0.00

**\*160\***

QC

Memo

0.00

Quality Control

*12/4/23*

*1204-23*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

April-18-12 8:11:26 AM

Page 1

Work Order ID: 83421

\*83421\*

Parent Item: D4148-1

\*D4148-1\*

Parent Item Name: Crosstube Lug Plate, Fwd

Start Date: 18/04/2012

Required Date: 02/05/2012

Start Qty: 12.00

Required Qty: 12.00

## Comments:

IPP Rev:A 10.06.24 new issue DD verf:EC

IPP Rev:B 10.10.29 as per revC DD verf:EC

11.03.02 AS PER DWG REV.D DD VERF:EC

IPP REV:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S11GA		Purchased	No			100	sf	72.0900	0.3607	4.556211	6		

\*M304S11GA\*

304/316 0.125 Sheet

\*\*

B12-4-22

## Location

## Loc Qty

## Loc Code

MAT020

72.09

121070

5.59

121380

66.5

121380

15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	83421
<b>Description:</b> Fwd Crosstube Lug Plate		<b>Part Number:</b>	D4148-1
<b>Inspection Dwg:</b> D4148	<b>Rev:</b> D	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.129	+0.005/-0.001	.131	2		✓ 102	
Ø0.191	+0.005/-0.001	.193	2		✓	
Ø0.38	+0.006/-0.001	.379	2		✓	
Ø0.257	+0.006/-0.001	.258	2		✓	
Ø0.50	+0.008/-0.001	.499	2		✓	
0.94	+/-0.030	.94	2		✓	
4.47	+/-0.030	4.47	2		✓	
0.750	+/-0.010	.751	2		✓	
8.47	+/-0.030	8.466	2		Prover	
8.096	+/-0.010	8.097	2		P	
5.43	+/-0.030	5.43	2		✓	
5.197	+/-0.010	5.195	2		✓	
4.733	+/-0.010	4.735	2		✓	
0.310	+/-0.010	.310	2		✓	
0.750	+/-0.010	.760	2		✓	
0.375	+/-0.010	.376	2		✓	
1.84	+/-0.030	1.837	2		✓	
0.92	+/-0.030	.916	2		✓	
3.000	+/-0.010	2.997	2		✓	
0.750	+/-0.010	.753	2		✓	
0.625	+/-0.010	.625	2		✓	
1.982	+/-0.010	1.980	2		✓	
0.991	+/-0.010	.993	2		✓	
0.77	+/-0.030	.773	2		✓	
1.54	+/-0.030	1.534	2		✓	
2.47	+/-0.030	2.464	2		✓	
0.82	+/-0.030	.824	2		✓	
3.57	+/-0.030	3.572	2		✓	
1.23	+/-0.030	1.228	2		✓	
0.73	+/-0.030	.729	2		✓	
0.125	+/-0.010	.118	2		✓	
Ø0.252	+0.003/-0.000	.252	2		✓	

<b>Measured by:</b> B	<b>Audited by:</b> S	<b>Preliminary Approval:</b>
<b>Date:</b> 12-4-22	<b>Date:</b> 12/4/23	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
A	10.08.04	New Issue	KJ	
B	10.10.08	Dwg Rev updated	KJ	
C	10.11.05	Dimensions updated per Dwg Rev C	KJ	
D	11.03.08	Dwg Rev updated	KJ	
E	12.02.01	Dimensions updated per Dwg Rev D	KJ	

W/O:		WORK ORDER CHANGES					
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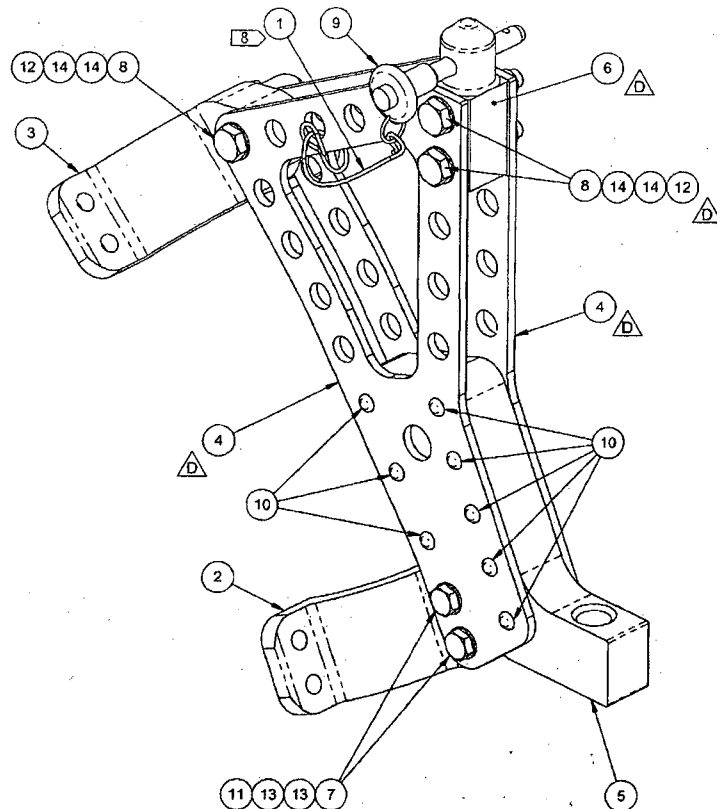
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries





**D4148-041 FWD X-TUBE LUG ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4148-041" PER DART QSI 044 6.1
- 7) WEIGHT: 3.67 lbs
- 8) ATTACH D2690-6 TO D4148-1 BY LOOPING AROUND A LIGHTENING HOLE FIRST AND THEN SECURE TO MS17984-C413

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE

WORK ORDER

NO. 83421 MLJ  
12/04/18

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4148-041	FWD X-TUBE LUG ASSY
1	1	D2690-6	LANYARD
2	1	D3910-1	X-TUBE LUG
3	1	D4091-1	MOUNTING LUG
4	2	D4148-1	FWD X-TUBE LUG PLATE
5	1	D4148-3	STUD RECEIVER LOWER
6	1	D4148-5	EYEBOLT STUD
7	2	AN3C12A	BOLT
8	3	AN4C13A	BOLT
9	1	MS17984-C413	PIP PIN
10	8	MS20615-4M18	RIVET
11	2	MS21043C3	NUT
12	3	MS21043C4	NUT
13	4	NAS1149C0332R	WASHER
14	6	NAS1149C0432R	WASHER

**RELEASED**  
R 2011-02-24

D	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.250" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, C4-2)	SC	11.02.22
C	REDESIGNED D4148-1/3 TO ADDRESS COMPATIBILITY ISSUES WITH D350-591 SHORT STEPS	MB	10.10.12
B	REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, B7-2 & B4-2); MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D6-3); Ø0.129 7 PL WAS 10 PL (ZN A7-3); Ø0.191 WAS 0.129 (ZN C8-5). REASON: SEE TR-D350-607-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4148	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		FWD X-TUBE LUG ASSY	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD  THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

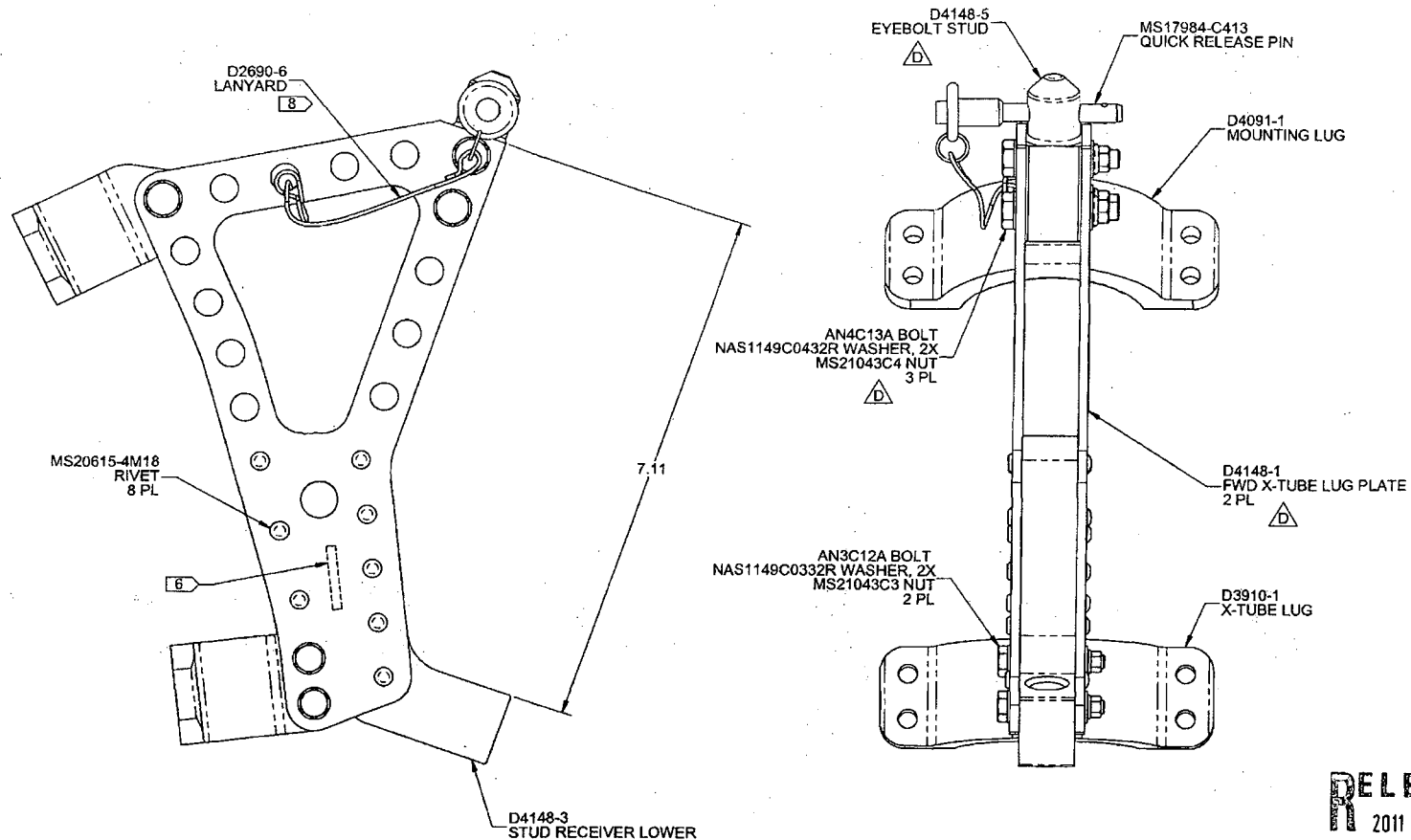
W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4148-041 FWD X-TUBE LUG ASSY**

**RELEASED**  
2011-02-24  
JMP

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO. <b>D4148</b>	REV. D SHEET 2 OF 5
MFG. APPR.		TITLE	SCALE
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# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

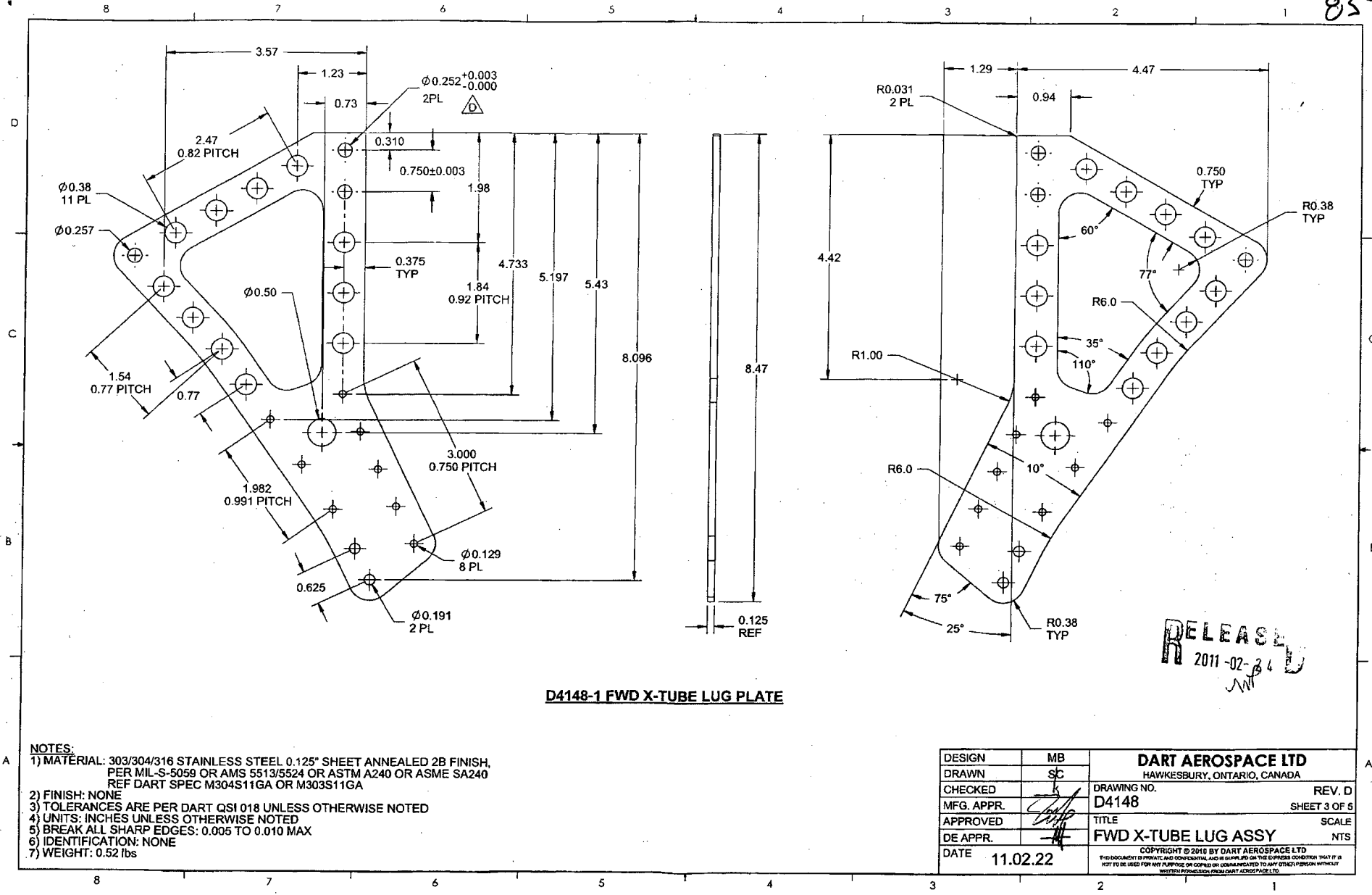
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

83421



D4148-1 FWD X-TUBE LUG PLATE

NOTES:

- 1) MATERIAL: 303/304/316 STAINLESS STEEL 0.125" SHEET ANNEALED 2B FINISH, PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240 REF DART SPEC M304S11GA OR M303S11GA
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.52 lbs

DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4148	SHEET 3 OF 5
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2011-02-24

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

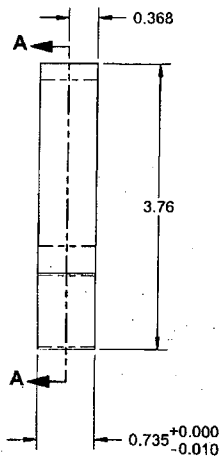
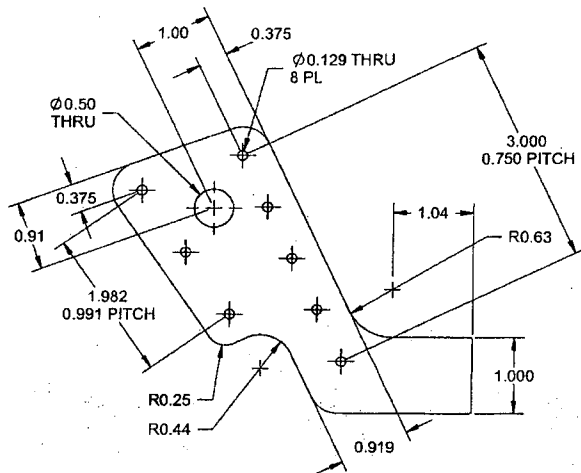
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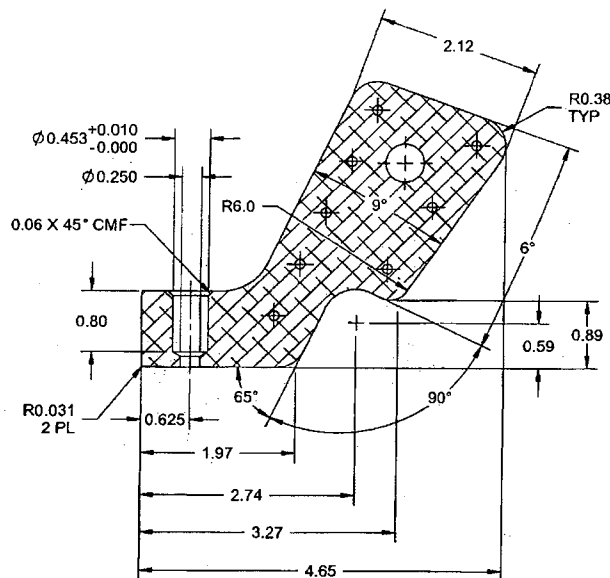
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8 7 6 5 4 3 2 1

83421



**D4148-3 STUD RECEIVER LOWER**



**SECTION A-A**

**RELEASED**  
2011-02-24

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A582 OR ASTM A276  
REF DART SPEC M304B OR M303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.52 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
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8 7 6 5 4 3 2 1

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

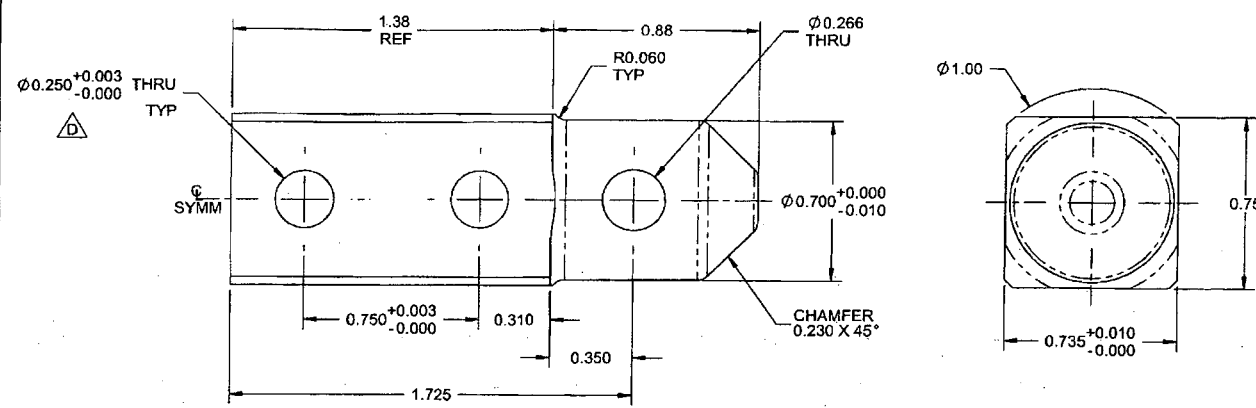
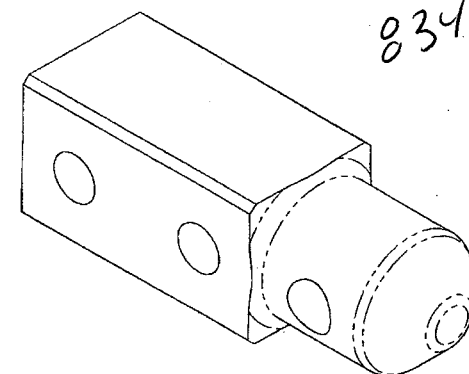
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83421



**D4148-5 EYEBOLT STUD**

**RELEASED**  
2011-02-24

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A582 OR ASTM A276  
REF DART SPEC M304B OR M303B
  - 2) FINISH: NONE
  - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.27 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESSBURY, ONTARIO, CANADA	
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CHECKED		DRAWING NO.	REV. D
MFG. APPR.		<b>D4148</b>	SHEET 5 OF 5
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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